



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,541	07/19/2006	Yuzo Senda	Q95983	4649
23373 7590 07/08/2009 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER ALPHONSE, FRITZ	
			ART UNIT 2112	PAPER NUMBER
			MAIL DATE 07/08/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/586,541

Applicant(s)

SENDA, YUZO

Examiner

FRITZ ALPHONSE

Art Unit

2112

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 33-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 33-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 July 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF-08)
Paper No(s)/Mail Date 4/01/2009, 7/19/2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-11 and 33-42 in the reply filed on 4/27/2009 is acknowledged.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The Information Disclosure Statement (IDS) submitted on 4/01/2009 and 7/19/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

Oath/Declaration

4. The Oath/Declaration filed on 7/19/2006 is acceptable.

Drawings

5. Figures 1-3B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The abstract of the disclosure is objected to because: a) reference numbers to the drawings must be removed. b) the abstract includes improper language such as “ a method is **disclosed**”. Correction is required. See MPEP § 608.01(b).

Claim Objections

7. Claims 1-11, 39-42 are objected to because of the following informalities: Method claims 1-11, 39-42 are not written in active step format.

Claims 33 and 34 are objected to because of the following informalities: It is suggested to replace the colons after (device for z) with a coma (,) or a semicolon (;). Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-11, 39-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Particularly, as to claim 1, the matrices (H, H1 and H2) are not defined in the claims. It is not clear if the variables m and n can be any real numbers.

10. Claims 33, 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear how device claims 33 and 34 could be dependent of method claim 1.

Claim Rejections - 35 USC § 101

11. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

12. Claims 36-38 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 36 recites, “generating row r of a parity check matrix by using period list $P=\{p(1), p(2), \dots, p(PL)\}$ (where $p(1)$ - $p(PL)$ are relatively prime) to: set as “1” matrix elements that correspond to columns c that satisfy conditions, using integer i and a prescribed value $F(j)$, $1 \leq c \leq n-m$ and $c=p(j) \cdot i+r+F(j)$ if $N(j-1)+1 \leq r \leq N(j)$, where $N(j)$ is defined to be a sum of values from element $p(1)$ to element $p(j)$ of said period list P , and moreover, $N(0)$ is defined to be “0”; to set as “1” matrix elements that correspond to columns c that satisfy a condition $c=n-m+r$, and to set as “0” matrix elements that do not satisfy any of said conditions.”.

Claim 37 recites, “generating row r of a parity check matrix by using period list $P=\{p(1), p(2), \dots, p(PL)\}$ (where $p(1)$ - $p(PL)$ are relatively prime) to: set as “1” matrix elements that correspond to columns c that satisfy conditions, using integer i , $1 \leq c \leq n-m+r$ and $c=p(j) \cdot i+n-m+r$ if $N(j-1)+1 \leq r \leq N(j)$, where $N(j)$ is defined to be a sum of values from element $p(1)$ to element $p(j)$ of said period list P , and moreover, where $N(0)$ is defined to be “0”; and to set as “0” matrix elements that do not satisfy any of said conditions.”.

Claim 38 recites, “generating row r of a parity check matrix by using period list $P=\{p(1), p(2), \dots, p(PL)\}$ (where $p(1)$ - $p(PL)$ are relatively prime) and period list $Q=\{q(1), q(2), \dots, q(QL)\}$ (where $q(1)$ - $q(QL)$ are relatively prime) to: set as “1” matrix elements that correspond to

columns c that satisfy conditions, using integer i and a prescribed value $F(j)$, $1 \leq c \leq n-m$ and $c = p(j) \cdot i + r + F(j)$ if $N(j-1) + 1 \leq r \leq N(j)$, where $N(j)$ is defined as a sum of values from element $p(1)$ to element $p(j)$ of said period list P , and moreover, $N(0)$ is defined as "0"; to set as "1" matrix elements that correspond to columns c that satisfy conditions, using integer i , $n-m+1 \leq c \leq n-m+r$ and $c = q(j) \cdot i + n-m+r$ if $M(j-1) + 1 \leq r \leq M(j)$, where $M(j)$ is defined as a sum of values from element $q(1)$ to element $q(j)$ of said period list Q , and moreover, $M(0)$ is defined as "0"; and to set as "0" matrix elements that do not satisfy any of said conditions. "

The claims as written attempt to gain a patent on every "substantial practical application" of an abstract algorithm/idea. The courts have also held that a claim may not preempt ideas, laws of nature or natural phenomena. The concern over preemption was expressed as early as 1852. See *Le Roy v. Tatham*, 55 U.S. 156, 175 (1852) ("A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right."); *Funk Brothers Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 132, 76 USPQ 280, 282 (1948) (combination of six species of bacteria held to be nonstatutory subject matter).

Accordingly, one may not patent every "substantial practical application" of an idea, law of nature or natural phenomena because such a patent would "in practical effect be a patent on the [idea, law of nature or natural phenomena] itself." *Gottschalk v. Benson*, 409 U.S. 63, 71-72, 175 USPQ 673, 676 (1972).

Note: Abstract mathematical concepts and algorithms are natural phenomena that can be discovered through deductive reasoning based on the application of the fundamental axioms of mathematics.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fritz Alphonse, whose telephone number is (571) 272-3813. The examiner can normally be reached on M-F, 8:30-6:00, Alt. Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman, can be reached at (571) 272-3644.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-3824

Information regarding the status of an application may also be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Fritz Alphonse/

Examiner, Art Unit 2112

Application/Control Number: 10/586,541

Page 7

Art Unit: 2112

July 1, 2009.